ONR Prob/Stats Newsletter
1st Quarter – 2000

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1. Transitions to Navy and Industry

Boris Rozovski and researchers at the Center for Applied Mathematical Sciences - USC have successfully transitioned algorithms for track-before-detect, adaptive sequential detection, and optimal target tracking. These have been transitioned to Raytheon for use in their testbed for surveillance applications and cruise missile defense and to SPAWAR for use in 6.2 programs for detection and tracking of low-SNR targets.

2. MIT Work Presented to Navy

Research results in robust image segmentation were presented to the Common Support Advanced Technology Review Board at NAVAIR for possible transition to naval air systems. Prof. Alan Willsky and colleagues at MIT developed this technology for automatic target recognition (ATR) applications. This work was well received by the audience and generated interest in using the results.

3. Young Investigator Award

Congratulations to Prof. Robert Nowak at Rice University for being awarded an ONR Young Investigator Award. The goal of his research is to develop a novel and unifying Bayesian multiscale framework for creating realistic imaging models that will enable very efficient inference, optimization, and learning algorithms.

The objectives of the Young Investigator Program (YIP) are to attract outstanding new university faculty members to naval research and to encourage their teaching and research careers. For more information on this program see http://www.onr.navy.mil/sci_tech/special/onrpgadk.htm

4. Interface Conference

The Interface 2000 conference will be held in New Orleans on April 5 – 8. For more information, see: http://www.neptuneandco.com/interface/

ONR will have a booth in the exhibit hall that will showcase the Probability and Statistics program and other ONR opportunities. Please stop by during break times on April 6 and 7 if you would like to discuss program issues or to obtain more information on ONR.

5. US Army Conference on Applied Statistics

The US Army Conference on Applied Statistics will be held on October 18 – 20 at Rice University in Houston, Texas. This is a forum for the presentation and discussion of theoretical and applied research in the use of probability and statistics for solving Army problems. The conference organizers would like to expand participation to researchers interested in other government or military applications in probability and statistics. For more information see: http://rpstl.arl.mil/isb/acas/.

Noel Cressie will be giving an invited talk on statistical applications in command and control. Some of the other invited speakers include Agresti on logistic regression, Geman on image analysis, and Oreskes on model validation. A tutorial will be offered October 16 – 17 describing work in data fusion and information integration. Special sessions will be organized around biological warfare, digital government and reliability issues in the DoD.

6. Multidisciplinary Research Program of the URI - MURI

The Multidisciplinary Research Program of the University Research Initiative (MURI) is a multi-agency DoD program that supports research teams whose efforts intersect more than one traditional science and engineering discipline. MURI topics are submitted by various DoD agencies each year and are usually announced in the spring. For more information on the MURI program, see http://www.onr.navy.mil/sci_tech/special/onrpgadh.htm

Two teams will be conducting research for the topic on Decision-Making under Uncertainty that will now be managed in the Probability and Statistics Program. The goals of the research are to develop methods of dealing with uncertainty in a Command and Control environment and to build research prototypes of decision aids that incorporate these methods. The Principal Investigators are Judea Pearl from UCLA and Michael Jordan from the University of California – Berkeley. A kickoff meeting will be scheduled for July 10 – 12 or July 17 – 19 and will take place at ARL in Maryland. For more information, please send an email to Wendy_Martinez@onr.navy.mil.

7. Small Business Innovation Research (SBIR)

An SBIR Phase I research effort on the Modeling and Simulation of Decision-Making under Uncertainty will take place this year. The work will be conducted by Marvin Cohen of Cognitive Tech and Ron Laughery of Micro Analysis and Design. The goal of this research is to develop technology to model and simulate human decision making in stressful and highly uncertain conditions. For more information on the SBIR program, see http://www.navysbir.brtrc.com/